

REMARKS

Claims in the case are 1-3, 6, 11, 13, 14 and 19-21, upon entry of this amendment. Claims 1-3, 6 and 11 have been amended, Claims 19-21 has been added, and Claims 5 and 15-18 have been cancelled herein.

Claims 4, 7-9 and 12 were cancelled in an amendment dated 21 November 2003. Claim 10 was cancelled in an amendment dated 25 May 2003.

Basis for added Claims 19-21 is found in Claim 1 (of the preceding amendment, dated 25 May 2003) and Claims 15-17.

Claims 2, 3, 6 and 11 have been amended as to form and for improved correspondence with Claim 1, from which they each depend, by inserting the term --optical-- between "The" and "recording" in the preambles thereof.

Claim 1 has been amended herein to include monomer formulas (IV) and (V) in (b). Basis for formula (IV) is found at page 14, lines 1-12 of the specification. Basis for the substituents of formula (IV) (e.g., R, S², T², Q², etc.) is found at pages 10-14 of the specification. Basis for formula (V) is found at page 15, lines 25-26 of the specification.

Claim 1 has also been amended to include a further limitation as to the optical recording material having a layer thickness of at least 1 mm. Basis for this amendment to Claim 1 is found at page 22, lines 25-26 of the specification.

The specification stands objected to under 35 U.S.C. §112, first paragraph. This objection is respectfully traversed with regard to the following remarks.

Applicants respectfully submit that the paragraph inserted after Formula (XX) and before line 8 on page 21 of the specification, in their previous amendment dated 25 May 2004, is supported by the patent application as originally filed. In particular, the ranges for p, the x : y ratios, and the x + y mol % values all find basis in original Claim 10. Attention is directed to the appendix included herewith, which contains: (i) a copy of page 36 of the present specification showing Claim 10 as originally filed; and (ii) a copy of page 37 of WO 00/60586, showing Claim 10 of the related published PCT patent application. WO 00/60586 is a publication of German patent application number 199 14 325.0, to which the present applications claims priority.

Applicants previous amendment, of 25 May 2004, to the specification was

undertaken to introduce into the specification disclosure that was present in Claim 10 as originally filed. As such, the amendment to the specification is not deemed to represent the introduction of new matter into the case.

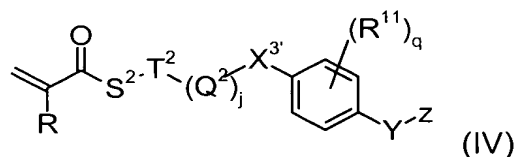
In light of the preceding remarks, Applicants' specification and claims are deemed to meet the requirements of 25 U.S.C. §112, first paragraph. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-3, 5, 6, 11, 14 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over DE 197 03 132 A1 (**Berneth et al**). This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

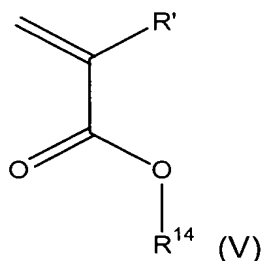
Berneth et al disclose photoaddressable poly(meth)acrylate polymers that are prepared from (meth)acrylate monomers having organic dye groups bonded thereto. See the abstract, page 6, and the polymer formulas of pages 9-15 of Berneth et al.

However, Berneth et al do not disclose, teach or suggest an optical recording material having a thickness of greater than or equal to 1 mm. Berneth et al disclose their photoaddressable poly(meth)acrylate polymers as having thickness of only 0.1 to 100 μm . See page 7, lines 49-50 of Berneth et al.

In addition, Berneth et al do not disclose, teach or suggest an optical recording material that includes a combination of: (a) a polymeric dyestuff selected from Applicants' formulas XIV, XV, XVI and XVIII; and (b) a polymer having form anisotropy containing monomer residues represented by,



and optionally,



wherein the substituents are as defined in Applicants' present Claim 1.

Applicants submit that the combination of: (a) a polymeric dyestuff selected from Applicants' formulas XIV, XV, XVI and XVIII; and (b) a polymer having form anisotropy containing monomer residues represented by formulas (VI) and optionally (V), allows for the preparation of an optical recording material having a desirable combination of higher layer thickness (i.e., greater than or equal to 1 mm), and lower optical density. Berneth et al do not disclose, teach or suggest such a desirable combination of properties, and do not disclose, teach or suggest how to achieve such a desirable combination of properties.

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Berneth et al. Reconsideration and withdrawal of the present rejection is respectfully requested.

Claims 1-3, 5, 6, 11 and 13-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Berneth et al in view of United States Patent No. 5,384,221 (**Savant et al**). This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Berneth et al has been discussed previously herein, and discloses photoaddressable poly(meth)acrylate polymers that are prepared from (meth)acrylate monomers having organic dye groups bonded thereto.

Savant et al discloses an optical storage medium that includes a transparent polymer and an isomerizable azo dye, which is either blended with or covalently bonded to a polymer backbone, after the polymer is formed. See the abstract, and column 8, lines 18-52 of Savant et al.

Savant et al do not disclose or suggest using their isomerizable azo dye and polymer compositions at a thickness of greater than 100 μm . See the abstract, and the Examples at columns 20-24 of Savant et al. At column 18, lines 51-66, Savant et al disclose wet coating thicknesses of up to 1000 μm (1 mm). However, it is important to note that these are wet coating thicknesses (which include solvents), prior to drying the coated plate by the application of heat. The application of heat, results in a reduction in the thickness of the applied wet coating, as would be recognized by a skilled artisan.

Berneth et al disclose photoaddressable poly(meth)acrylate polymers that are prepared from (meth)acrylate monomers having organic dye groups bonded thereto. Berneth et al do not disclose, teach or suggest first preparing a poly(meth)acrylate polymer, and then subsequently modifying it by introducing covalently bonded organic dye groups onto the polymer. Savant et al disclose an optical storage medium that includes a transparent polymer and an isomerizable azo dye, which is either blended with or covalently bonded to a polymer backbone, after the polymer is formed. Savant et al do not disclose, teach or suggest the preparation of a polymer from monomers having isomerizable azo dye groups bonded thereto. As such, neither Berneth et al nor Savant et al provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their respective disclosures.

As the Court of Appeals for the Federal Circuit has stated, there are three possible sources for motivation to combine references in a manner that would render claims obvious. These are: (1) the nature of the problem to be solved; (2) the teaching of the prior art; and (3) the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The nature of the problem to be solved and the knowledge of persons of ordinary skill in the art are not present here and have not been relied upon in the rejection. As for the teaching of the prior art, the above discussion has established that neither of the patents relied upon in the rejection provide the requisite teaching, and certainly do not provide the motivation or suggestion to combine that is required by Court decisions.

Even if Berneth et al and Savant et al were combined, Applicants' presently claimed optical recording material would not result from such combination. In particular, Berneth et al and Savant et al, either alone or in combination, do not disclose, teach or suggest an optical recording material having a layer thickness of at least 1 mm. In addition, Berneth et al and Savant et al, either alone or in combination, do not disclose, teach or suggest an optical recording material having a combination of: (a) a polymeric dyestuff selected from Applicants' formulas XIV, XV, XVI and XVIII; and (b) a polymer having form anisotropy containing monomer residues represented by formulas (VI) and optionally (V), which together allows for the preparation of an optical recording material having a desirable combination of

higher layer thickness (i.e., greater than or equal to 1 mm), and lower optical density. Berneth et al and Savant et al, either alone or in combination, do not disclose, teach or suggest such a desirable combination of properties, and do not disclose, teach or suggest how to achieve such a desirable combination of properties.


It is respectfully submitted that the rejection appears to make impermissible use of hindsight reconstruction in picking and choosing, and recombining various elements of the cited references in an attempt to arrive at Applicants' presently claimed optical recording material. The use of hindsight reconstruction of an invention is an inappropriate process by which to determine patentability, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988).

In light of the amendments herein and the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Berneth et al in view of Savant et al. Reconsideration and withdrawal of this rejection is respectfully requested.

Applicants note with appreciation the statement on page 4 of the Office Action of 1 September 2004 that Claims 15-17 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 15-17 have been cancelled and rewritten as independent Claims 19-21 respectfully. Claims 15-17 do not recite a polymer represented by formula XVIII. Accordingly, in addition to Claims 1-3, 611, 13, 14, Claims 19-21 are deemed to be in condition for allowance.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to meet all the requirements of 35 U.S.C. §112, and to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

By 
James R. Franks
Agent for Applicants
Reg. No. 42,552

Bayer MaterialScience LLC
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-3808
FACSIMILE PHONE NUMBER:
(412) 777-3902

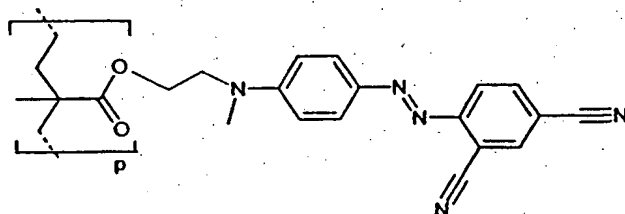
APPENDIX

Copy of page 36 of the present application as originally filed.

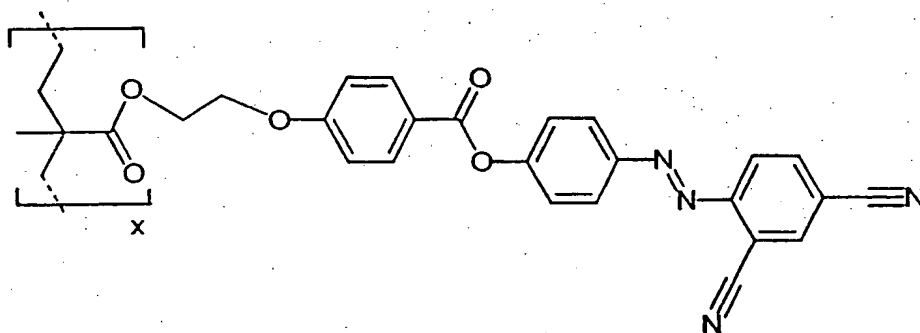
Copy of page 37 of WO 00/60586.

wherein the compositions in the co- and terpolymers can vary, provided that $x + y$ adds up to 100 mol%, or $x + y + z$ adds up to 100 mol%.

- 5 10. Recording material according to claim 9, characterized in that p is between 10 and 1,000 and/or in the case of the copolymers $x : y$ is between 10:90 and 90:10, preferably between 30:70, particularly preferably between 40:60 and 60:40, and especially preferably 50:50, and/or in the case of terpolymers $x + y$ is greater than 10 mol%, preferably greater than 20 mol%, particularly preferably greater than 30 mol%.
- 10 11. Storage system, characterized in that it comprises a recording material according to any of claims 1 to 10.
- 15 12. Storage system according to claim 11, characterized in that the recording material comprises one or more unsupported objects of any desired shape, preferably an unsupported flat structure, particularly preferably an unsupported film, a multi-layer build-up preferably comprising at least one substrate layer.
- 20 13. Storage system according to claim 11, characterized in that it also additionally comprises a reflection layer.
- 25 14. Process for the production of the storage system according to at least one of claims 11 or 12, or 13, characterized in that it comprises a step in which the storage medium is applied by spin-coating.



XIX



XX

5

wobei bei den Co- und Terpolymeren die Zusammensetzungen variieren können, unter der Maßgabe, dass sich $x + y$ zu 100 mol-%, bzw. $x + y + z$ zu 100 mol % ergänzen.

- 10 10. Aufzeichnungsmaterial nach Anspruch 9, dadurch gekennzeichnet, dass p zwischen 10 und 1000 liegt und/oder im Falle der Copolymere $x : y$ zwischen 10:90 und 90: 10 liegt, bevorzugt zwischen 30: 70, besonders bevorzugt zwischen 40:60 und 60:40 und ganz besonders bevorzugt bei 50:50 und/oder im Falle der Terpolymere $x+y$ größer als 10 mol-% sind , bevorzugt größer als 20 mol-%, besonders bevorzugt größer als 30 mol-% sind.
- 15 11. Speicher, dadurch gekennzeichnet, dass ein Aufzeichnungsmaterial gemäß Ansprüchen 1 bis 10 enthalten ist.